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13 November 1996

Outline: Rand and nuclear weapons

I. Visit RAND, end summer of 1957 (after summer at Stanford, Patrick Suppes seminar on measurement and probability; San Francisco

A. Talk to Hitch: game theory, decision-making under uncertainty; bargaining theory; Society of Fellows.

B. Enthoven and Rosemary: dinner, out to beach in moonlight (only time).

II. Soviet Sputnik: panic, increase in military and scientific budgets (?) (including RAND?); evidence of Soviet ICBM (tested earlier that summer?): start of missile gap (?).

A.I"m invited to RAND.

B. March (?) Carol pregnant with Mary (?)

C. Was that the spring I spent playing the market, reading three papers (NYT, Globe, WSJ) each morning, turning over capital ($20,000) twice in a day, going short: and fantasying driving into a wall on my way home. (?) No sex, from time Carol learns she's pregnant.

D. Society of Fellows.

III. RAND

A. Guards, passes

B. Rooms, blackboards

C. Secretary; references; blueprint, stencils

D. Mail routing; personal

E. Lunches: snackbars; restaurants

F. Muscle Beach
G. View of ocean

IV. Secrecy

A. Guards, passes; they memorize faces.

B. Safes, locks.

1. The drill: close drawers leaving room, spin locks.

2. Checks; reprimands.

C. Confidential; most Secret; TS special list, couldn't keep in room (no TS safe).

1. Uncleared area for those not yet cleared. I got provisional TS at first (?)

D. Posters: loose lips sink ships (WWII); Want Company? Meet interesting people? .....(?)

E. At lunch, in public, habits of mumbling, looking over shoulder.

F. No sharing with wife, children (some did); no taking classified work home (some did).

G. Intelligence estimates (AFCIN); RAND D's, RM's, R's (some TS), memos.

V. The Missile Gap

A. AFCIN estimates

B. RAND "estimates"

C. R-266: base study (Rowen, Wohlstetter, Hoffman, Lutz (?)

D. Work on R-290 (or was that underway?)

E. Briefings, with charts.

F. Vulnerability as the issue; Second Strike Capability (AJW) after "best-designed and executed" Soviet surprise attack taking into account actual US limitations and vulnerabilities (worst case, as if SU (DEFINE: vs. US: symmetry, of force capabilities, motives; abstract player) knew all US secret "posture" (DEFINE) characteristics (vN and M assumption, like "reluctant duellist") and "rational" (in economist's sense! DEFINE).

G. Mainly bomber force (after bomber gap), supplemented by ICBMS and SLBMS or cruise missiles from subs; against warning system, BMEWS...;alert force; forward basing; airborne alert?

VI. Surprise Attack model

A. Roberta Wohlstetter Pearl Harbor study

1. Signals and Decision: notion of signal and noise, ambiguity (incomplete and competing, contradictory evidence; <u>should have applied my ambiguity analysis, later</u>).

2. Trouble getting it cleared; use of SI, released in Congressional testimony; need for high interventions (when? who?)

to get it cleared.

3. Emphasis on special handling, very few saw it, never in context of past reporting. (Was this true? Intelligence analysts could certainly do reports on basis of pattern; top people would not see only raw reports. Has there--not--been an SI-classified study, since Roberta's, analyzing Roberta's data and inferences?

a. Who was cleared at the time for MAGIC?

b. How good are open studies on this, as of now?

c. How was it handled, then? Any differently, because of earlier period? Because it was MAGIC?

d. Ask Richelson, Blair, MHH.

e. Do public studies of Pearl Harbor and FDR really make full use of, do they by now have full access to, SI? (Almost surely not).

f. What of Japanese sources: did the occupation lead to full US access to Japanese data?! (It should have! Likewise, in Germany! Did it?

g. Did occupations give US full access to Nazi and Japanese (and Italian) codes and coding processes, and handling of SI?!

h. Roberta's general attitude, that this was a very special, "aberrant" case: no clear awareness of special clearances, of the "world of special intelligence." Military SI, diplomatic SI, history of it; corresponding intercepts of Germans...

i. (READ books on NSA, and Code-breaking) (How much does Weiner know about this?)

B. Ambiguity of Warning

1. Different sources : BMEWS, side radars, planes, infrared, strategic warning, SI, recon (I knew little of latter two at first, though I heard of balloons and RB-47s before U-2);

2. Delays in transmission.

3. Weather effects, geese, false alarms

4. BMEWs hitting moon (1961?)

5. (later? exercises, faulty transistor, chip)

C. Responses

1.Conferences

2.Alerting

3. Positive control

4. Authentication

5. Presidential involvement

6. Execute messages

7. (not, then: hotline, checking with Soviets (Dr. Strangelove)

D. Delay in response, and moderated response, due to ambiguity (AJW; following Roberta.) Exciting notion to me, a use of my decisiion-theory concepts in real world.

1.Hence, source of vulnerability. May not alert in time, especially if no positive control. (See problem of France responding to Hitler's invasion of Rhineland: lack of partial mobilization or limited response plans (like Tsar's problem in WWI); need for flexibility, limited response plans, alerting options with positive control (to reduce risk of war on false alarm).

E. Conceptualization of the Execute "problem" as a single decision-maker's decision problem under uncertainty (taking into account real-world uncertainty, delays in transmission, ambiguities, delays in response time, vulnerabilities due to real operational characteristics, and enormous stakes.

F. Admittedly, "worst case," but interest in this was rationalized as preventing Soviets from being "tempted," "invited" to attack.

1. Example of Pearl Harbor, where Japanese capabilities had been underrated, especially their ability to solve operational problems, extend range and achieve secrecy and surprise, their planning and training for special surprise attack (What had happened had been possible, contrary to belief) (Examples: Churchill as First Lord, discovering vulnerability of fleet; Capt. William Barber at Fox Hill, checking security the first night; my practice drawn from latter, my emphasis on "security", alert, warning (reflecting the Accident? And see Dad on need to visit the site, compare actual practice with blueprints). (Recall preoccupation with "security" in Vietnam; and actual inability to get VNese to do night patrolling).

2. Model of Soviets as people who felt a doctrinal obligation to know and to exploit enemy's weaknesses and vulnerabilities, to exploit opportunities (the ideology of a weaker antagonist, like insurgent, VC).

3. Model of Soviets as both calculating and ruthless, who had experienced enormous losses in WWII and "knew that they had

survived and recovered adequately, and soon"; thus, supposition that they were willing (more than us) to reexperience this for sufficiently high stakes [rather than to recoil from the thought!].

F. Not taking into account:

1.Actual Soviet operational characteristics (vs. Nathan Leites' Operational Code of the Politburo, based on inspirational "ideal" of Bolshevik (ruthless, deceptive, disciplined, selfless) behavior).

2. What was knowable and actually known from intelligence including SI and recon (this was concealed: concealing mainly weakness and vulnerability). In particular, growing evidence from U-2 and other sources from 1956\58 on that there was neither bomber nor missile gap, indicating misunderstanding of SU motives (combined with growing nuclear force targeted on Germany!)

3. Various limits on "rationality" (including rejection of the "mad rationality" of economic or strategic calculations pointing to suicidal preemption).

4. Possibilities for negotiation, interaction, cooperation with Soviets. Resolving conflicts; providing warning; limits on testing, and on deployment; disarmament.

G.